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PLANNING SUBURBAN SHOPPING CENTERS

IN Thebes after threading one's way through dark and very narrow streets one would at last emerge into the full sunshine of a noisy little square where a market is being held. Here are all kinds of cattle on sale, and peasants, fishermen, and small retail dealers squat several deep in front of the houses, displaying before them in great rush baskets, or on low tables, loaves of pastry, fruit, vegetables, fish, meat, raw or cooked, jewels, perfumes, stuffs, all the necessities and all the superfluities of Egyptian life. . .

"Two or three commercial streets or bazaars open from the other side of the square, and the crowd hastens towards them when it leaves the market.

"Nearly their whole length is filled with stalls and shops, in which not only Egypt, but the majority of oriental nations, display their most varied productions. Beautifully ornamented stuffs from Syria, Phœnician or Hittite jewelry, scented woods and gems from Pnut and Arabia, lapis and embroideries from Babylon; coral, gold, iron, tin, and amber from far-distant countries beyond the seas are found scattered pell-mell amongst the native fine linen, jewels, glasswork, and furniture. . .

"There are confectioners, and restaurants where ready cooked meats can be bought either to be taken away, or eaten on the premises. Barbers go roving about in the bazaars. . .

"There are also beer houses near by. The reception room is furnished with mats, stools, and armchairs. Here the customers drink beer, wine, and palm brandy. No sooner has a stranger seated himself than a maid servant comes up to him offering liquor and urging, 'Drink with rapture! Listen to the conversation of thy comrades and enjoy thyself!' "

These paragraphs are adapted from Maspero's book ANCIENT EGYPT AND ASSYRIA, and describe an Egyptian shopping center as it existed in 1250 B. C. From it we can see that there has been little basic change in shopping centers since then. The Oriental bazaar, the Roman markets and, later on, the farmers' markets all had one common denominator, to bring together a large quantity of varied products at a point that the largest number of customers could reach with the greatest convenience. The downtown department store also following this same merchandising fundamental has been an outstanding success.

Basically, therefore, a shopping center is a merchandising unit. Its planning, location, development and operation should all point toward placing a wide variety

of merchandise within convenient reach of mass purchasing power, and its development and operation must be done at a cost that will allow an adequate return to its owner.

We all recognize the importance "customer convenience" has played in the development and success of any merchandising unit. Regardless of whether it is a corner grocery store, an outlying shopping area, or a downtown shopping district, it must be within convenient reach of an appropriate number of customers. The more inconvenient it is to reach, the greater must be the customers' reward upon arrival: either greater variety, higher quality, lower prices, or usually a combination of all three.

Most appraisers, city planners and architects are fond of using the word "accessibility" as a synonym for "convenience." If a location is easily reached by a large number of people it is said to have great "accessibility." The characteristic of accessibility also includes easy movement from one part of the location to another. In the case of a shopping center this would necessitate adequate-width sidewalks, suitable parking arrangements and a well-planned layout of the stores. Therefore, the gauges against which all proposed shopping developments must be measured are:

1. Will the center have enough accessibility to make it an efficient merchandising unit?

2. Can it be built and operated at a profit?

Before these questions can be answered a considerable amount of study is necessary. No two shopping centers are alike and nothing is much more useless than attempting to generalize on their details which turn and twist themselves into an almost impenetrable maze. Unfortunately, many of the questions have no direct answer. They deal with overlapping problems which cannot be answered until two, or three, or four of them are unraveled and reassembled into a tailor-made solution.

The purpose of this article is to state these problems and to present what data we have been able to find that will help point the way toward their solution.

SELECTING THE LAND

The study of four important land characteristics is fundamental in selecting land for any purpose. These characteristics are: size, location, contour and shape. All four are inter-related but the dominant characteristics of any piece of land are its size and location. Both must be appropriate in their relationship to each other and to the other factors. Most of us realize that the proper contour and shape of a piece of land are equally important with its other characteristics. However, they are much less frequently found to be limiting factors, whereas the size and location of the land often limit its use. Due to zoning regulations and the rapid build-up of most of our cities, well-located sites of adequate size are becoming increasingly difficult to find.

Location of a piece of land in relationship to its accessibility to purchasing

power is the most important single factor in the selection of a site for a shopping center. This relationship determines the size of the merchandising unit necessary to serve the available purchasing power. The size of the merchandising unit, in turn, determines the amount of land necessary to accommodate the buildings and to provide customer accessibility (parking space) to the unit. All too frequently the land upon which the shopping center is located is accessible to large amounts of purchasing power, but due to poor layout or insufficient parking space the stores themselves are inaccessible.

Once a piece of land with the proper physical requirements (size, shape, contour) is found, it must be checked against the known and probable economic factors that will influence it. In making these checks the prime consideration will be the location of the land in relationship to purchasing power. Therefore, the accessibility to purchasing power is the chief economic factor affecting the location and size of the site. This accessibility will also in large measure determine how much the developer can pay for acquisition of the site.

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MEMO TO SUBSCRIBERS:

Those organizations requesting extra copies of the February Appraisal Bulletin will be billed $1.00 per copy. The size of this report and the greatly increased cost of production make this policy necessary. This is contrary to our usual policy of supplying to our subscribers one additional copy of any bulletin free of charge.

ROY WENZLICK & CO.

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We had this point brought home to us rather strongly last summer. We were

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Of course, the sequence can be reversed, and often is. The purchasing power can be located first, and then the search for an adequate site begun. It doesn't matter much which end one starts from; the conclusion is generally the same.

HOW MUCH PURCHASING POWER?

No matter what method is used by the developer in calculating his chances for success, at one time or another he must face the problem of estimating the purchasing power his center will influence. He may estimate the size of his center (and the size of the individual stores) by figuring so many front feet of store space for a certain number of people. He may base his estimate on the number of square feet of store space to serve 1000 people. He may use government estimates on the number of stores that can be supported by communities of certain size. He may figure his sales space requirements on the basis of expected dollar volume of sales by reducing the expected sales volume to so many dollars per square foot of space. He may be extremely careful (or extremely patient) and use a combination of these methods. But at some time he will have to outline the adjoining area from which he thinks the center will draw its sustenance.

Various formulas have been devised to help the promoter determine the size of this area. Some of them are pretty good, but most of them are only guides. Numerous surveys have also been made in order to find out how far customers will go to buy certain types of merchandise. The results of these studies are not conclusive. Therefore, the best approach in estimating the size of a shopping area is simply to use common sense. In this light it seems logical to assume that no rational person will use any more travel time than he has to to buy what he wants at what he considers the right price. If this is oversimplification, it is still a good place to begin. The question of travel time is not entirely one of distance. It is easier and quicker to travel five miles over certain well-planned, well-laid-out streets, than to travel two miles over certain others that are narrow, cut by frequent intersections and swarming with traffic.

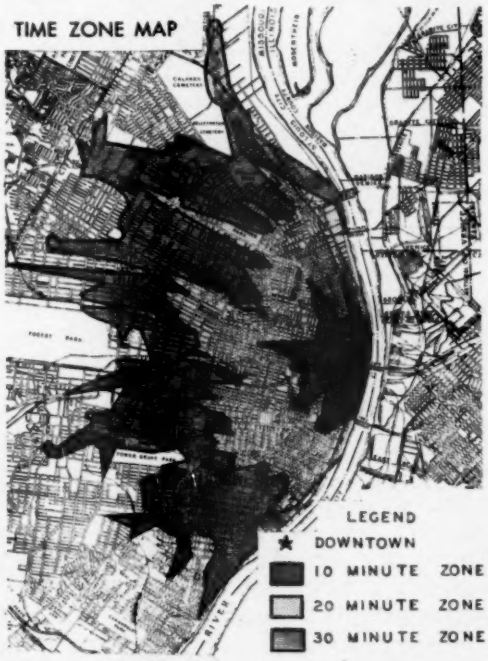
We had this point brought home to us rather strongly last summer. We were

appraising a county in southwestern Kentucky in connection with a reassessment program and we were attempting to determine how farm land value was affected by its distance from the county seat. Our calculations did not work out very well on this basis. The important point was not the distance from the farm to the county seat, but the distance from the farm to the main highway leading to the county seat. The farmers didn't mind a ten-to-fifteen-mile drive over a concrete highway, but they did object to a four-or-five-mile drive over a dirt road to reach the highway.

Therefore, the shape of the shopping area based on travel time alone will probably be highly irregular. It will look something like the small drawing in the lower corner of this page.

Such a map does not show population or purchasing power or competing influences. It only shows the length of time necessary to reach a certain spot from various other locations. Census data can be applied to the various zones outlined on this map and the population and total purchasing power for each zone can be estimated with reasonable accuracy.

Thus, it is possible to estimate closely the total purchasing power within ten, twenty or thirty minutes' driving time of virtually any spot within any metropolitan area. From this point on, a great deal more detailed study is necessary in order to estimate how much of this total purchasing power will be spent in the proposed shopping center. The first step is to break down the total figure into its various components, i. e., so much purchasing power available for food purchases, so much for department store merchandise, so much for drugs and medicine, so much for recreation, etc. These component amounts of purchasing power must then be considered separately in view of the variety of merchandise to be offered and in view of competing stores, but no matter how carefully the estimates are made, they are subject to wide margins of error and the prudent investor will certainly lean heavily toward the conservative answer.

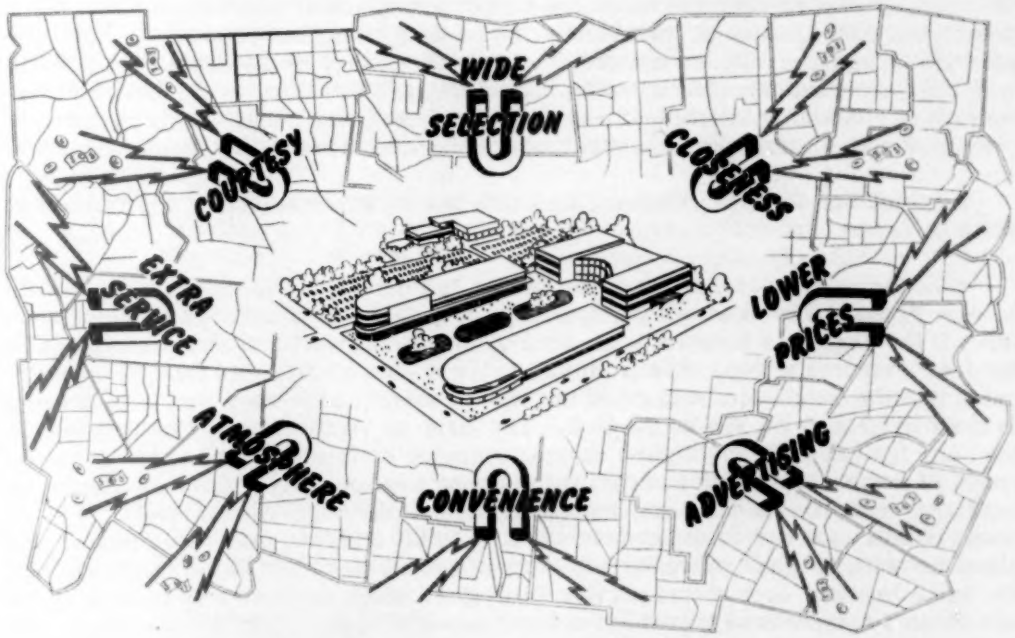


The purchasing power, or the dollar volume, of expendable income in a metropolitan area is not increased by opening new shopping units. Families are not going to eat more food or buy more clothing because of larger and more brightly lighted food stores or spacious parking lots. Unless the people are starving and unless their clothes are ragged, there are always "enough" food and clothing stores. Look at the families in any of our suburbs. They're well fed, well clothed, sleek and healthy. Their areas do not "need" new shopping centers; neither do those areas at the other extreme of the social scale - the slums. One of our biggest problems

in recently appraising 55 city blocks of slum property was valuing the scores of small retail outlets, grocery stores, beauty shops, filling stations and taverns. Whatever else the slum dwellers may lack, it is not retail outlets. Therefore, in the vast majority of cases new shopping centers are not "needed." If they are to be successful, they must take over a sufficient portion of the purchasing power that already exists in the area.

In setting up a new center, the promoter or owner must realize that the shopping habits in the proposed area have already been formed. In order for the new center to survive, the habits of a substantial number of potential customers will have to be changed. The following factors play an important part in the formation of shopping habits:

1. Closeness
2. Convenience
3. Wide variety of merchandise
4. Lower prices
5. Advertising
6. Atmosphere
7. Special services
8. Courtesy



These factors all act as magnets drawing purchasing power into a center, and the amount they will pull is in direct proportion to their ability to overcome the resistance of similar magnets in competing retail outlets. This is why the potential gross income of each proposed shopping center must be estimated on an individual basis. Generalization on the subject is useless, but in specific cases the pulling power of these habit-forming factors can be estimated with a fair degree of accuracy. All of the details that go into planning a shopping center are important. Most of them are interlocking, but none are so important as the measurement of the center's probable gross income.

As difficult as this problem is, it is not mysterious and it is not insurmountable. It is a problem that retailers have been solving for thousands of years with varying degrees of success. The difference lies in the approach to solving the problem. In the past the answer depended largely on guesswork or hunches. Today statistical data and techniques are available that can eliminate most of the guesswork.

WHO ARE THE CONSUMERS?

Perhaps a better way to ask this question is "Should most shopping centers cater to the middle income group?" Obviously the answer is "yes" because there are more middle income families to cater to than any other type. However, the question is not as silly as it sounds the first time it is asked. This subject is not a difficult one. Everyone recognizes it as an absolutely necessary fundamental and understands the principles behind it. We have included it here because we want to stress the fact that it should not be overlooked.

The question of "Who are the consumers?" is intimately linked with measuring purchasing power. Once the purchasing power has been measured it must be broken down into expendable income for various types and qualities of merchandise. When determining the quality of merchandise to be sold, the planner must find out with reasonable accuracy the income group into which most of his anticipated customers will fall. Fortunately, this is not a particularly difficult thing to do, but it is very important. Possibly the easiest way is to check the price ranges in the more successful shops serving the same type of trade anticipated at the proposed center.

We think that David D. Bohannon dealt with this fundamental clearly and thoroughly when he said:

"The large or regional shopping center is most likely to cater to the middle income group. This does not particularly apply to the neighborhood shopping center. If the center is located in an area of industrial workers and predominantly the lower income group, then it should cater to this group, and experience indicates that the merchants who stock the type of merchandise they find is in demand in their neighborhood will do the best. The large or regional center is no different than any typical well established central shopping district. There must be a wide range of merchandise with comparison shopping and specialty shops catering to the carriage trade, the middle income group as well as the wage-earner level. The national chains, a complete department store, possibly a branch mail order house, and all of the wide range of specialty and comparison shops should be represented. As the name implies, each should service the region, which may cover an area in which are located numerous neighborhood and convenient shopping facilities but which lack the complete service for a population in excess of 50,000 people."

HOW MUCH PARKING?

So far we have been thinking of the automobile shopper. Actually, the ideal shopping center would be entirely free from automobiles. The only vehicles that would approach it would be motor trucks bringing in new merchandise, and they would arrive and depart via underground passageways. Unfortunately, there are very few spots with sufficient concentration of population to support an "automobile-less" enterprise. Therefore, the automobile is a necessary nuisance for which the

merchant must provide lavish amounts of parking space. The farther the center is from city conveniences (and congestion) the more dependent it will be upon drive-in trade. If sufficient ground can be found near the city, higher density of population and public transportation will make the drive-in purchasing power less important. It is this factor that makes generalization on parking ratios somewhat hazardous. There are locations accessible to walk-in trade and publicly-transported trade that can get by very nicely with a 1-2 parking ratio (1 foot of parking space to 2 feet of sales space). Others not so fortunately situated must go to a 1-1 ratio. More frequently, however, the ratio of 2-1 has been found necessary and ratios of 3-1 or even 4-1 may be more desirable. For example, Beman Fast in a recent interview stated that his organization recommended the 4-1 parking ratio.

There are several ways to estimate the amount of parking with which a center should be provided. The first method is to buy whatever ground is available, put up a few buildings and leave the remainder of the ground for parking and future expansion. Being somewhat hit or miss, this method is held in wide disrepute by the more thoughtful authorities on the subject.

Another method which requires some assumptions and estimates is to arrive at a ratio of parking space to sales space. The assumption is that a 4-1 parking ratio will be sufficient when 100% of the trade arrives by automobile. After making this assumption the next step is to estimate what portion of the proposed center's trade will be automobile-borne and what portion will not. The following table is based on this assumption that 100% automobile shopper trade can be accommodated by a 4-1 parking ratio:

Percentage of Trade Arriving by Automobile	Ratio of Parking Space to Sales Space
100%	4-1
90%	3½-1
75%	3-1
60%	2½-1
50%	2-1
40%	1½-1
25%	1-1

We believe that the 4-1 ratio is safe enough and that the 5-1 ratio will rarely be necessary. However, if more safety is desired, assume that a 5-1 ratio will accommodate 100% drive-in trade. In that case the following table should be used:

Percentage of Trade Arriving by Automobile	Ratio of Parking Space to Sales Space
100%	5-1
90%	4½-1
80%	4-1
70%	3½-1
60%	3-1
50%	2½-1
40%	2-1
30%	1½-1
25%	1-1

The chief weakness of the ratio method lies in the varying space requirements of different parking layouts. The actual ground area covered by an automobile is just a trifle under 140 square feet, but by the time aisles and drives and wider parking stalls are provided, the area allotted to each car may go up to 400 square feet. Therefore, the number of automobiles that can be accommodated in a given area will depend on the parking angle, the width of the parking spaces and width of the aisles, and to a less extent on the shape of the lot.

The Urban Land Institute has recently recommended that a minimum of 10 car spaces be provided for every 1000 square feet of sales space. Naturally, this recommendation must be tempered by the amount of walk-in and publicly-transported trade the center is expected to enjoy. Furthermore, once the parking pattern, stall widths and aisle widths are decided upon the space requirements for each car can be calculated and a table similar to the ones we have just shown can be made up, using the number of spaces per 1000 square feet of store space as a basis. For example, suppose the promoters decide that their parking pattern, aisle widths and stall widths will give them an average of 300 square feet of parking space per car. The following table could then be worked out:

Percentage of trade arriving by automobile	Ratio of parking space to sales space	Number of parking spaces per 1000 s.f. of sales space (300 s.f. parking area per car)
100%	4-1	13 spaces per 1000 sq. ft.
90%	$3\frac{1}{2}$-1	$11\frac{1}{2}$ spaces per 1000 sq. ft.
75%	3-1	10 spaces per 1000 sq. ft.
60%	$2\frac{1}{2}$-1	$8\frac{1}{2}$ spaces per 1000 sq. ft.
50%	2-1	7 spaces per 1000 sq. ft.
40%	$1\frac{1}{2}$-1	5 spaces per 1000 sq. ft.
25%	1-1	3 spaces per 1000 sq. ft.

As we have already pointed out, the amount of area allotted per car can vary considerably; therefore, this table can be used only as a sample to show how a similar one can be made up after the area per car (in this case 300 square feet) is finally calculated. Hudson's Eastland Plaza - with 6000 parking spaces to 1,250,000 square feet of retail space - figures 4.8 spaces per 1000 square feet of store space, but their parking pattern allots something over 400 square feet per car. Allied Stores' big center at Northgate provides 4000 spaces for 650,000 square feet of retail space for a figure of 6.2 parking spaces for every 1000 square feet of retail space.

Still another method for arriving at the amount of parking that will be necessary is by relating it to the expected annual sales volume. This method is a trifle on the highbrow side, but if enough basic data can be gathered it should give good results. So far as we know, it was developed in San Francisco by Wurdeman & Becket while they were working out the details on shopping centers for Stoneson Brothers and David Bohannon. In using this method, the following data are required:

(The figures shown in parentheses are used in the example showing how the method works out.)

1. Anticipated total annual sales ($15 million)
2. Number of passengers per car (1.6 passengers)
3. Turnover of parking space (3.5 times)*
4. Peak factor (1.7 times normal load)
5. Average sale ($3.00)
6. Number of sales per customer (1.7 sales)

*The average number of times each space is used per day.

EXAMPLE: Multiply the number of passengers per car (1.6) by the average sale ($3.00) and multiply the answer by the number of sales per customer (1.7). Thus, 1.6 x $3.00 x 1.7 = $8.16 average sales per car.

This figure of $8.16 is multiplied by the turnover factor (3.5 times per day) to find the average dollar sales per parking space for each day. This is $8.16 x 3.5 = $28.56.

Thus far we have estimated average dollar sales of $28.56 per space per day. We now divide the (anticipated) total annual sales by the sales per space per day, or $15,000,000 divided by $28.56 = 525,200 spaces per year required. If we figure that the center will be open 306 days per year, we divide 525,200 by 306 and this gives us the normal number of parking spaces required per day, or 525,200 divided by 306 = 1716. We have estimated the peak factor as 1.7 times the normal load; therefore, we multiply the normal load of 1716 spaces by 1.7 and this gives us the number of spaces necessary to handle the peak load. This final amount of 2910 spaces (1716 spaces x 1.7) is the number required for the proposed center.

Now, obviously, the use of this method will require a great deal of study beforehand to arrive at the values to be assigned the various factors. The values we have used (1.6 passengers per car, $3.00 average sales, 1.7 sales per customer, etc.) are arbitrary and cannot be used (except by amazing coincidence) in any specific case. Since this method requires such detailed study, it should not be used in estimating parking requirements for the smaller centers.

MORE ABOUT PARKING

As with nearly everything else pertaining to shopping centers, there is wide disagreement over the methods used to determine the amount of necessary parking. As we have already indicated, some of the more meticulous students are turning away from the ratio method in favor of more precise and sophisticated systems of measurement. Even among those authorities who still favor the very popular ratio method there is great difference of opinion* as to the "proper" ratio. In estimating the desirable parking ratio for neighborhood centers (10 to 15 shops) expert opinion ranged from ratios of 1-1 on up to 3-1. The average of all opinion was $2\frac{1}{2}$-1. On community centers (20-40 shops) the opinions on parking ratios were a little closer

*Much of this apparent difference of opinion actually springs from varying conditions and locations. If all experts were talking about the same location, their opinions would probably be closer together.

together. They ranged from $1\frac{1}{2}$-1 up to 3-1, with an average of $2\frac{1}{2}$-1. Insofar as regional centers (50-100 shops) are concerned, the consensus was very much in favor of the 3-1 parking ratio.

The 1950 edition of the Traffic Engineering Handbook reports a survey of parking requirements in eight cities. The average requirement for retail parking space turned out to be one space for every 400 square feet of sales space (virtually a 1-1 ratio). Theaters had an average parking requirement of one space for every seven seats (although the range was from one space for every four seats to one space for every 10 seats). Restaurant parking requirements averaged one parking space for every five seats, or one space for every 50 square feet of customer space. While these averages may work out satisfactorily with a high percentage of walk-in trade, we think that one space for every 400 square feet of sales space is much too low for most suburban shopping centers.

Parking turnover is another vital and extremely variable factor. The Traffic Engineering Handbook indicates that on free parking lots (in seven different cities) the turnover ranged from 1.0 to 7.7 in an eight-hour day. The questionnaires returned to us from leading authorities showed even a wider range. Parking turnover at neighborhood centers mentioned in our questionnaire varied from three times per day to 20 times per day. Our guess is that the average (if there is such a thing) would be a good deal closer to three times than to 20, unless the lot is very small and used intensively. Answers to the questionnaires further expressed the opinion that community shopping centers experienced parking turnover ranging from four times to 15 times per day and that regional shopping centers experienced a parking turnover of three to six times per day. It's quickly seen that such widely divergent figures are shaky anchorage and that individual cases deserve individual study.

This line has been explored further by surveys of parking time (for shopping purposes) in the downtown areas of some 21 cities. The average parking time varied from one-half hour in Easton, Pennsylvania, to 2.2 hours in Denver, Colorado, with a median of 1.1 hours. This would indicate an average parking turnover of about seven times per day, but here, again, the spread between high and low is too great for the average to have much significance. Moreover, the data were gathered in downtown areas where the surrounding conditions are entirely different from those found in suburban or outlying shopping districts.

We all know that parking turnover will vary with the type of merchandise being shopped for. Therefore, a branch department store will generally have a much lower parking turnover than will a food store. This point should be kept in mind when studying parking requirements for proposed centers.

Still another variable that will confront anyone estimating parking requirements is the difference between the peak load and the average load. Theoretically, the peak load might be that number of cars parked on the Saturday before Christmas. We believe that a more realistic treatment is to define the peak load in terms that occur somewhat more frequently. We particularly favor this practice where expensive ground is being purchased and recommend that the parking be designed to carry a "Saturday" (or whatever the peak day may be in the particular locality) load rather than a load that occurs one day out of the year.

In the questionnaire we sent out to (more than 100) various authorities on parking at shopping centers we asked, "What is the usual difference between the average parking load and the peak parking load?" The answers indicated that in some cases the average parking load was only 20% of the peak load, while in others the average load was 50% of the peak load. If we interpret these answers correctly, they mean that some lots have a peak load five times as great as their average load, while others have a peak load only two times as great as their average load. It obviously makes a tremendous difference whether the parking is to provide for twice the average load or five times the average load, and this difference is multiplied as the price of land increases. It also points out the pitfalls of conforming too closely to what has gone on in the past. (Five times the average load might be too much parking.) J. C. Nichols, who probably knew more about shopping centers than anyone else, wrote an article for the Urban Land Institute in which he pointed out the various mistakes his organization had made in developing their centers.* As we recall, none of these mistakes involved providing too much parking, but such an error is certainly conceivable.

In finally deciding which method to use in estimating the parking requirements of a proposed center, the promoters should naturally be guided by common sense. The amount of research that should be done will depend not only on the size of the center but on what the research can reasonably be expected to divulge. There's not much point in researching if insufficient data can be gathered.

It goes without saying that the hit-or-miss "system" is rarely a satisfactory one for arriving at parking requirements. The simple ratio method (with the 10-car space per 1000 square feet of sales space minimum as a starting point) is an easy way out, and, providing comparable locations are studied, is probably entirely satisfactory in most cases. When large expenditures are contemplated or when a regional center is planned, we believe that a thorough study employing all measurable data is advisable. This is about as general a statement on the problem as we feel is warranted.

FRONT, REAR, OR SIDE PARKING?

All things being equal, the answer to this question depends on the size of the center and on local custom. Regional centers such as Hudson's in Detroit, Northgate in Seattle, and Clearview in Princeton, New Jersey, are so big that they have to split up their parking areas. On the other hand, smaller, more compact layouts can frequently concentrate their parking areas in either front, back or on either side. Some authorities argue that "Entrances are logically related to customer parking, wherever it is. Large parking areas must usually be split (front, side, rear) and entrances follow them. Not so much because front and rear entrances are desirable, but because entrances must be convenient to parking." We are certainly in general agreement with this viewpoint. Davis K. Jackson of the J. C. Nichols Com-

*"Mistakes We Have Made in Developing Shopping Centers," published by Urban Land Institute as Technical Bulletin No. 4, August 1945.

pany strongly recommends the use of small, well-located lots in preference to one large parking area. Moreover, he feels that the walking distance from the farthest parking space to the nearest shop should be held to 300 to 350 feet. He also points out that any lot with a capacity of more than 50 cars should have two entrances, and recommends entrance widths of from 25 to 26 feet.

On the other hand, L. E. Fite of San Antonio, Texas, points out that entrances on more than one side would complicate his merchandising operation and has not had sufficient public acceptance to justify them. Robert A. Polacheck of Milwaukee says that his company is making every effort to produce a high pedestrian count on their sidewalks in front of the stores, and with this in mind they definitely discourage sales entrances except at the front.

One of the determining factors in deciding where and how the parking area shall be planned is the distance shoppers will walk after parking. Of course, one could take a rather hardboiled attitude and say that the shoppers will walk as far as they have to to get to the store. This is perfectly true, but they might have to walk less to get into somebody else's store. Most authorities indicate that the maximum walking distance in neighborhood shopping centers should be about 250 feet, a short city block. Community shopping centers should be laid out so that the shopper will not have to walk more than 450 feet, while the regional center shopper is usually willing to walk as far as 600 feet from his (or her) parking spot. Of course, this distance depends a great deal on how long the shopper intends to stay. Few of them would balk at walking 600 feet at the start of an all-day shopping tour, while few of them would be willing to undergo such an ordeal in order to buy a loaf of bread. A survey conducted in Rockford, Illinois, shows that 80% of the one-half hour parkers walked no more than two blocks. The one-hour parker was willing to go a little farther - 80% of them walked no more than three blocks, 28% of them walked three blocks, and one out of eight walked four blocks. The two-hour parker was even more durable. One-fourth of them walked four blocks and 10% of them walked more than four blocks. Of those who parked longer than two hours, 21% walked five blocks or more.

We still believe that the best rule to follow is: Make it easy for the customer to get to the lot, easy to get into the stores, and easy to get around in the stores, and the easier you can make it the better off you'll be.

METHODS OF PARKING

The determining factor in deciding on the method of parking is "Do we want to concentrate on parking the greatest number of cars, or do we want to provide parking facilities with the highest degree of accessibility?" Somewhere between these two extremes will lie the answer, and our recommendations would tend toward the side of accessibility. The choice of parking pattern (90°, 60°, 30°, etc.) should depend on local practice, and the spacing between cars and in the aisles should provide easy parking. After all, parking, while a necessary nuisance, is provided for customer convenience, so why neutralize this convenience by attempting to squeeze

the last possible car on the lot.

In a bulletin published a couple of years ago* we showed a collection of parking diagrams and space requirements for various parking methods. In our diagrams and calculations we used a width of eight feet for the parking spaces. We think now that eight feet is a trifle tight and recommend at least $8\frac{1}{2}$, preferably nine feet.

We arrived at this conclusion after measuring rows of parked cars on free, unsupervised lots. Under these conditions the drivers were a great deal more considerate than one might suppose and took between $8\frac{1}{2}$ and nine feet to park. There was one lot where there were 10-foot spaces, but this extravagance was encouraged by lines painted at 10-foot intervals.

Another fact that must be faced is that women drivers do not relish congested areas and narrow parking stalls. As a matter of record we have several acquaintances who refuse to visit a large local branch department store unless their husbands are along to do the chauffeuring. In addition to parking inconvenience, narrow spaces make it particularly arduous to get the car doors open. Naturally, this can be rather aggravating to the customer when she is accompanied by large bundles and small children.

Aisle space is another critical dimension in laying out the parking lot. This distance is governed largely by the parking angle. Curb parking requires the narrowest aisle, while 90^{O} parking requires the widest. Here, again, our recommendations are of a generous nature. In the 90^{O} parking we measured we found aisle widths varying from 20 feet to 36 feet. Naturally, the 36-foot aisle width was found on a no-charge city-owned lot.

We have prepared another group of parking diagrams and layouts (pages 98 through 103). We believe that they will work for more customer satisfaction than those of skimpier dimensions. If these diagrams are used their dimensions should not be shaded too much.

RANDOM NOTES ON PARKING

Most of us know that parking attendants are not used very often at shopping centers. One of the large chains wrote us that their use of attendants was most often to supervise the flow of traffic (some stores use traffic lights). They went on to say, however, that there were some few exceptions where their lots were used by their competitors' customers or by all-day parkers and that in these cases they had to regulate the use of the space as to time and customer. Needless to say, employee parking should be rigidly controlled.

When the layout of a lot or its traffic flow is congested, the use of attendants

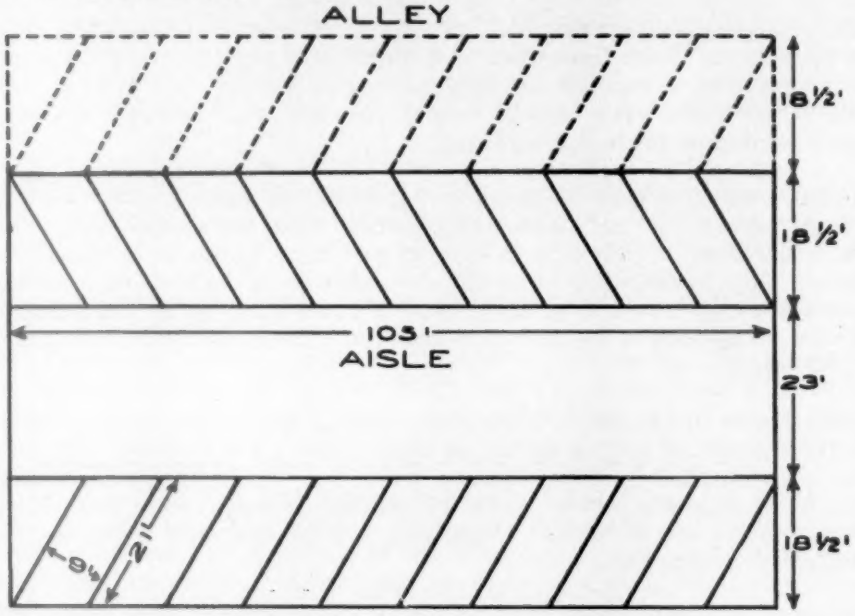
(cont. on page 104)

*September 14, 1948, Appraisal Bulletin, "Inaccessibility of Business," published by Roy Wenzlick & Co.

CAPACITY DEPENDS ON ACCESS

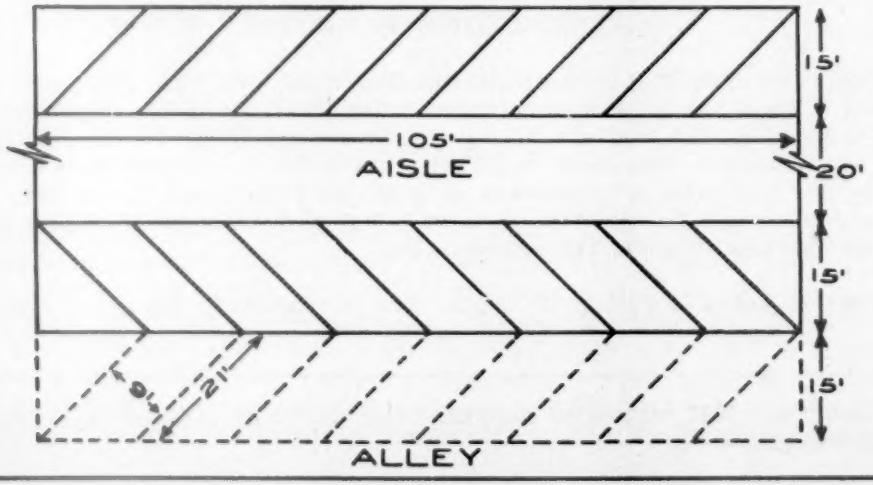
CUSTOMER PARKING - 60° ANGLE

60' x 105' = 6,300 sq. ft. 18 cars = 348 sq. ft. per car.
Add 18' 6" to the width and 27 cars can be parked providing an alley gives access. (78' 6" x 105' = 8,250 sq. ft., ÷ 27 cars = 305 sq. ft. per car).



CUSTOMER PARKING - 45° ANGLE

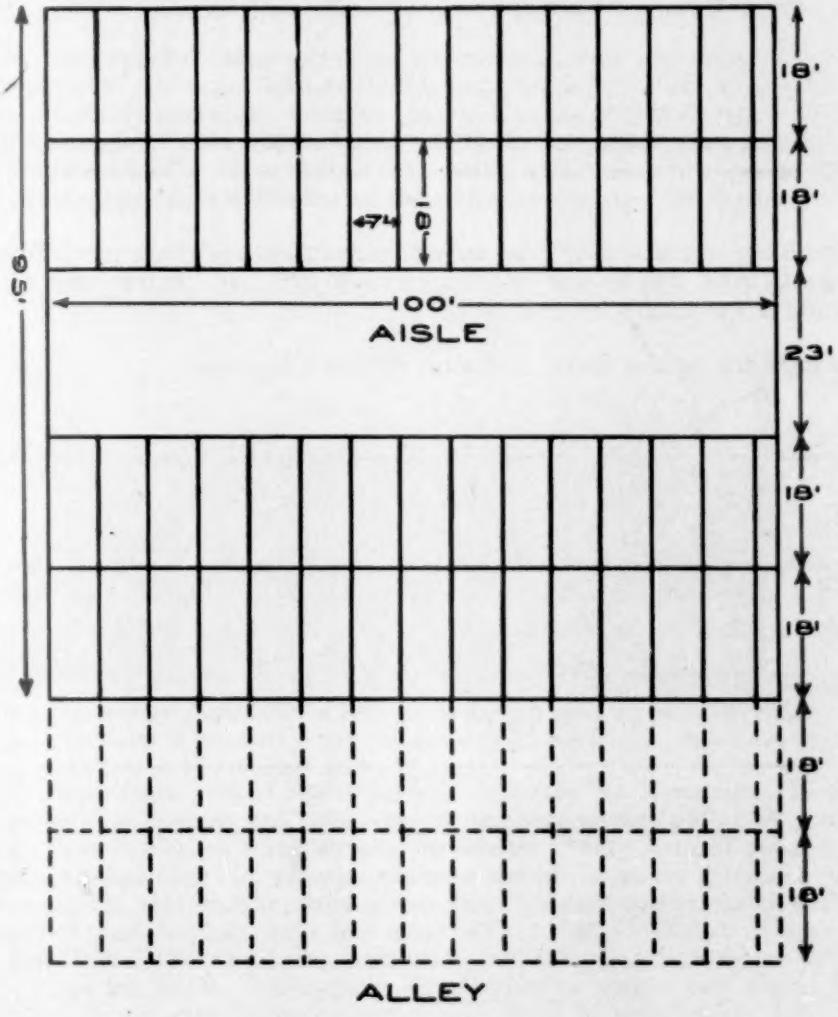
50' x 105' = 5,250 sq. ft. 14 cars = 375 sq. ft. per car.
Add 15' to the width and 21 cars can be parked providing an alley gives access. (65' x 105' = 6,825 sq. ft., ÷ 21 cars = 325 sq. ft. per car).



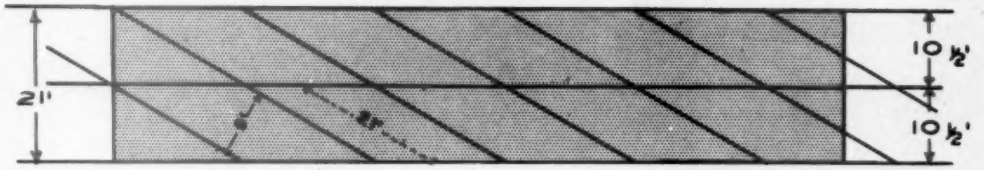
ATTENDANT PARKING HAS ITS ADVANTAGES

ATTENDANT PARKING - 90° ANGLE

95' x 100' = 9,500 sq. ft. 56 cars = 170 sq. ft. per car.
An addition of an alley would allow an attendant to park 28 more cars on an additional 36'. (100' x 131' = 13,100 sq. ft., ÷ 84 cars = 156 sq. ft. per car).



PARKING CAPACITY ALSO DEPENDS ON THE PARKING ANGLE

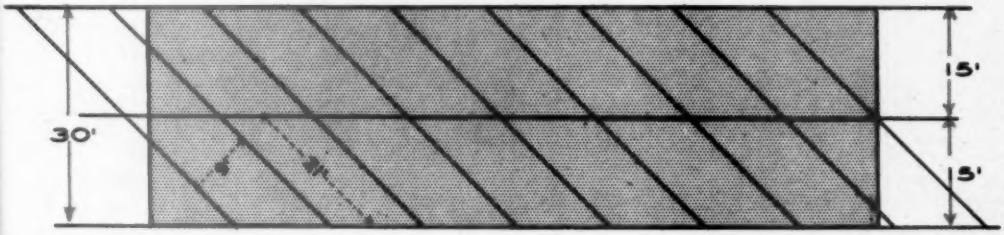


The above is a sample of 30° parking. The width of the bay is 21' . The depth of the stalls is 21' and the width of the stalls is 9' . The shaded area represents a 100' long strip of parking space and covers roughly the space of 11 cars.

Let us assume that we have a parking lot 10 bays wide. There will, of course, be an aisle between each bay and at each side of the lot. The aisles will be 18' wide. We will, therefore, have 10 bays, each 21' wide and 11 aisles, each 18' wide. The lot will, therefore, be (210' + 198') 408' wide. Suppose this lot has bays 200' long, with a 20' aisle across each end of the lot. The lot will, therefore, be 240' deep and 408' across and will cover an area of 97, 920 square feet.

In each bay which is 200' long we will park 22 cars (11 cars per 100'). Since there are 10 bays, this lot will hold (comfortably) 220 cars. In this case the lot will allow right at 444 square feet per car.

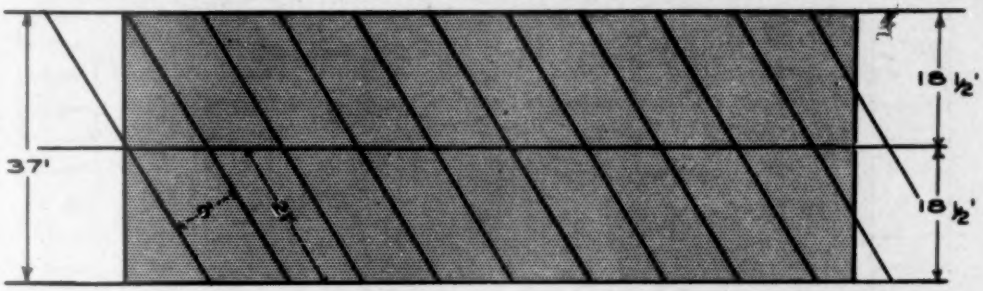
But let's try another angle: Let's try 45° angle parking.



This is a sample of 45° parking. The bay width is 30' , stall depth, 21' , and stall width, 9' . The shaded area represents a 100' long strip of parking space and covers roughly 15 cars. Let's assume we have the same number of bays and aisles as in the preceding example. In this case the bays are 30' wide and there are 10 of them. The 11 aisles are each 20' wide so the lot is 520' across (10 bays at 30' = 300' + 11 aisles at 20' = 220'). The bays will again be 200' long and there are 20' aisles across each end of the lot. Therefore, the lot is 520' x 240' and covers 125, 000 square feet. Since we can park 15 cars per 100' of bay and since each bay is 200' long, we will put 30 cars in each bay. With 10 bays we park 300 cars in 125, 000 square feet, or 417 square feet per car.

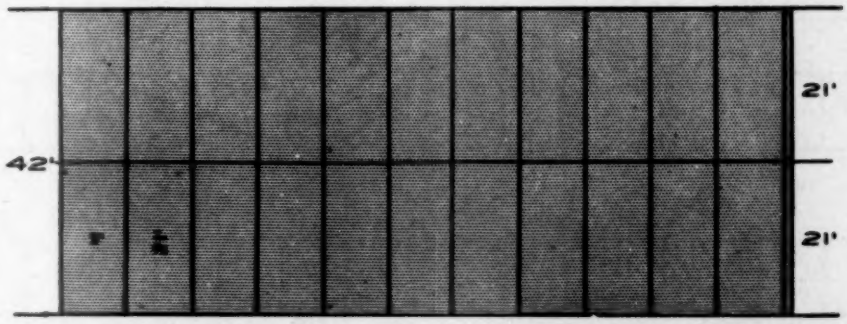
PARKING CAPACITY ALSO DEPENDS ON THE PARKING ANGLE

Still another angle is the 60^{o} angle shown below:



This 100' strip of 60^{o} angle parking will accommodate approximately 19 cars, stall size again 9' x 21'. The bay width is 37'. Along the same lines as before, 10 bays at 37' = 370' + 11 aisles at 23' = 253'. So this lot is 623' across and 240' deep. The area is, therefore, 150,000 square feet. If 19 cars can be parked in 100' of bay there will be 38 cars in each 200' bay or 380 cars in 10 bays; 380 cars on a 150,000 square foot lot = 395 square feet per car.

Below is a sample of 90^{o} parking:

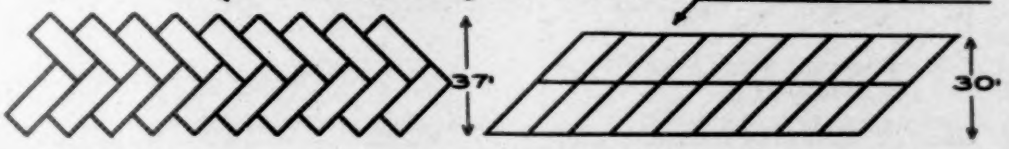


In this case stall size is again 9' x 21', bay width is 42', aisle width is 25'. Therefore, 10 bays (420') + 11 aisles (275') = 695'. Figure same length bays (200') with the 20' aisles at each end; therefore, lot is again 240' deep and in that case covers 167,000 square feet (695' x 240'). If we can park 22 cars per 100' of bay, we will park 44 cars in each bay, or 440 cars in 10 bays - so, 440 cars parked in 167,000 square feet = 380 square feet per car.

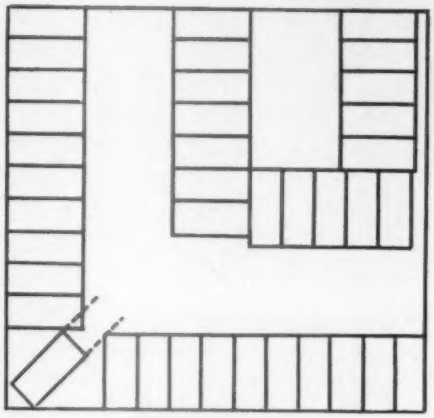
Therefore, it pays to figure all the angles when laying out a parking lot.

This 45^{o} parking pattern may look prettier,

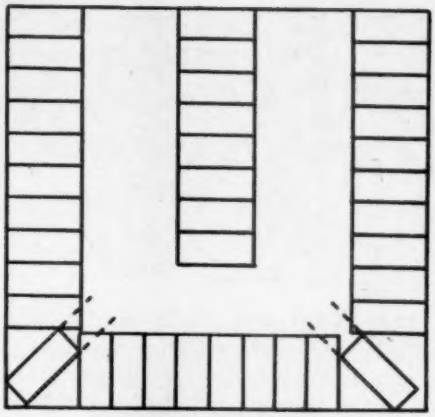
but it takes up more room than this 45^{o} parking pattern.



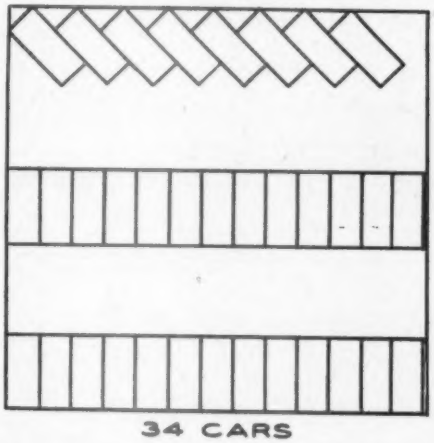
PARKING PATTERN DETERMINES CAPACITY
(Each lot is 110' x 115')



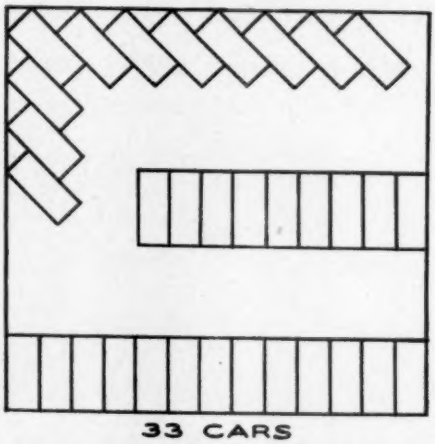
38 CARS



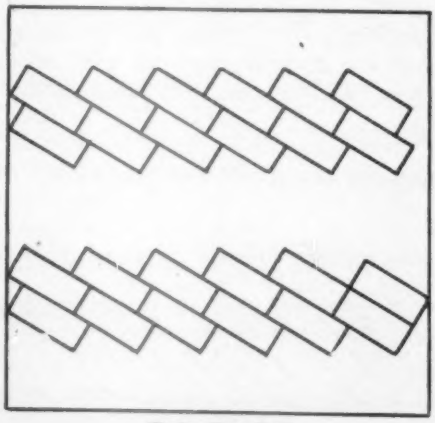
38 CARS



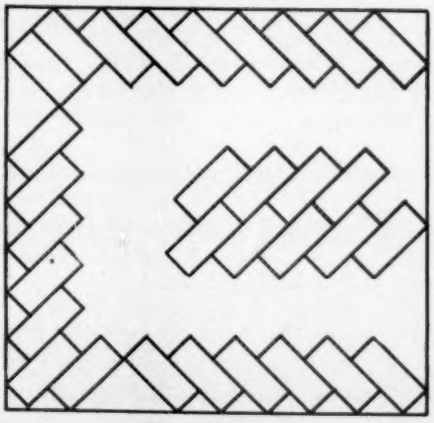
34 CARS



33 CARS

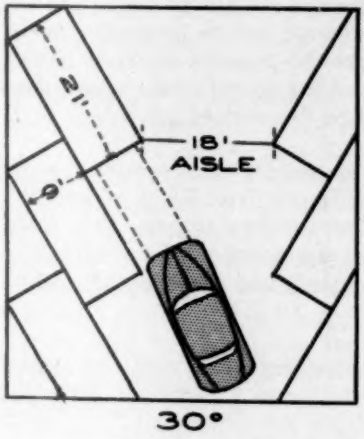


24 CARS

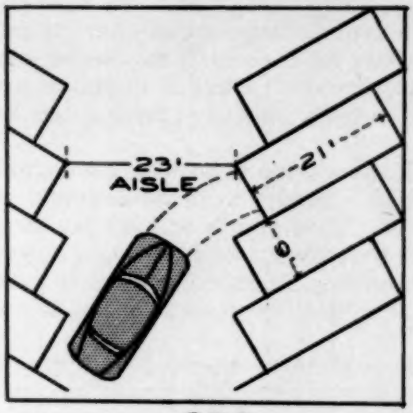


31 CARS

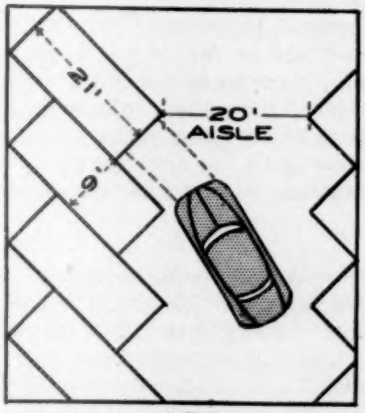
SPACE AND AISLE REQUIREMENTS FOR PARKING AT VARIOUS ANGLES



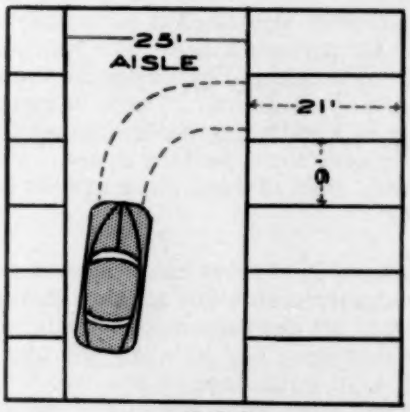
30°



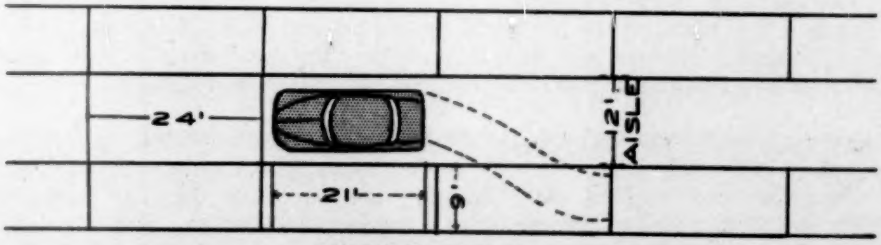
60°



45°



90°



CURB PARKING

(cont. from page 97)

is valuable but as a general rule the cars should be allowed to come and go with a minimum of supervision.

We agree with most of the experts that no charge should be made for parking. There are circumstances where some sort of charge has to be made, but for the most part the owners of the center can underwrite the parking expense by charging higher rentals. When it is necessary to charge for parking we would generally recommend a sharply rising scale to discourage "overparking."

No discussion of parking is complete without at least a word concerning parking garages. Except in large centers, most garages cost too much to even be considered. They simply will not pay their way. Even in large centers it is frequently better to move out a little farther to get away from the necessity of providing multi-level parking. General opinion is pretty well crystallized that they should be built only as a last resort or in unusual cases.

Nevertheless, anyone planning an extensive shopping center should explore the possibility of eventually providing some type of multi-level parking. This can frequently be done by using the roof areas of the larger buildings. J. L. Hudson's branch store (a round, two-story building) in their enormous Eastland Plaza shopping center will have roof parking reached by a circular ramp which also provides a covering for the promenade around the store. A large midwest center, located on gently sloping ground, has contemplated roofing over a major portion of the entire center for parking space. The roof parking area would be reached at ground level on the high side and by ramps on the other sides. Access to the stores would be provided by escalator. There is apparently no end to the resourcefulness and ingenuity of architects, designers and merchandisers in devising ways and means to provide additional parking space. For the promoter of the average size center, however, most of these plans are too costly for anything except interesting conversation.

Howard T. Fisher has proposed more extensive use of "auto shopping" where the customer makes her purchases without leaving her car. He argues quite logically that the gasoline and oil business would never have gotten out of short pants if the customer had to make her purchases on foot and struggle back to her car towing a 10-gallon can of gasoline and two quarts of oil. (Another almost insurmountable inconvenience would be the problem of getting air into the tires by such an antiquated procedure.)

It seems to us that there is a good bit of room for auto shopping. It has been tried, sporadically, with various degrees of success, but we believe the system will grow and that many of the bugs will be worked out of it. Any forward-looking planner of shopping centers will at least consider the possibility of merchandising certain types of products or services through the use of this method.

Pedestrian walkways through the parking area are desirable. If they can be covered they are even more so. They do use up space, however, and in most cases they have been omitted. Our thoughts are that while they are highly desirable from the standpoint of convenience, comfort and safety, they are not vital. In the smaller centers they are somewhat of a luxury. In the big centers they are

becoming more necessary.

More important than pedestrian walkways is paving and drainage of the parking area. Unpaved and undrained lots are dusty and dirty during the spring and summer and wet and sloppy during fall and winter. Blacktop paving is probably the best. It is relatively inexpensive, does not produce a glare, and is easily repaired.

If feasible, the parking areas should be beautified by trees and planting strips and every effort should be made to keep the areas clean and neat.

SHOPPING CENTERS CLASSIFIED

Thus far, we have talked a great deal about shopping centers without bothering to classify them. Almost any classification of a "shopping center" would either be very involved or very arbitrary. We realize that we are being arbitrary in choosing the following classification, but we believe that it is the lesser of the two evils. After all, the classification is merely for the purpose of defining our terms.

1. Neighborhood shopping centers . . . 10-15 shops
2. Community shopping centers . . . 20-40 shops
3. Regional shopping centers . . . . . 50-100 shops

We make no particular defense of this classification. It simply makes the subsequent discussion a trifle easier to follow.

THE NUMBER ONE LOCATION

In recent years many shopping centers have grown from a single well-located, well-managed store. The importance of a "star attraction" has long been recognized. The downtown districts and outlying commercial developments build up around two or three big crowd-drawing stores. Therefore, the selection of the number one tenant for a shopping center is of prime importance. Fortunately, it is not usually a difficult choice to make. Where neighborhood centers are concerned, the consensus is that the number one spot should be occupied by a super market. Some experts believe that the best location should be filled by a drug store. Under some circumstances we would agree, but we think that generally speaking the best number one store for a neighborhood center is the super food market.

The selection of the number one tenant in a community center is a bit more difficult, but one of two choices can usually be made with equally good results. A branch department store or super drug store would be our first choice. We are thinking of someone like Sears, Ward or Penney in the department store line, or someone like Katz or Walgreen in super drugs. Actually, many of the super drug stores are small

department stores. In fact, it's not unusual to go into the basement of a super drug store and find a grocery department (everything except fresh vegetables) doing a thriving business. Our second choice would be a super food market. As a matter of fact, in a community center of 20 to 40 shops it would seem like a good idea to have both the department store and super food market in the two most prominent spots. It can usually be worked out. However, if we had to make a choice of one, we would select the department store. The super food market would usually run a very close second.

The only question in our mind regarding the choice location in a regional shopping center is whether to have one department store or two. There is practically no disagreement among the experts that the shining light of the big centers is the department store. Our feeling is that if one is good then two are probably better. There is nothing particularly original or radical in this thinking. We all know that the big downtown department stores are relatively close together, and that they "help" each other considerably. Two of the major department stores in downtown St. Louis are each within two blocks of the third one. The four leading men's furnishing stores are within a block or two of each other.

We turned through a few pages at random of a Nirenstein Atlas (a collection of maps of downtown districts) and found the following information on downtown department store location.

Albany, N. Y.	2 located next door to each other in 100% block
Baltimore, Md.	3 located within 1 block in 100% block
Boston, Mass.	4 located in 3 blocks - 90%-100% locations
Brooklyn, N. Y.	3 located in adjoining 100% blocks
Buffalo, N. Y.	6 clustered within a couple of blocks; 3 others adjoin or are across street from each other
Newark, N. J.	2 on opposite corners of 100% block
Rochester, N. Y.	3 within 1 block each other - 100% locations
Syracuse, N. Y.	5 within 2 blocks each other - 85%-100% locations
Wilmington, Dela.	3 within 2 blocks each other - 80%-100% locations

While downtown districts have "Topsied" around the department stores, today's regional centers and (to some extent) the community centers, offer a marvelous opportunity for planned competition. This is a fairly new term for old-fashioned horse sense and means that the proper selection and arrangement of stores will draw more customers to all of the participating stores.

Therefore, the mere selection of the tenant to occupy the number one spot (or spots) is frequently only the easy beginning of the promoter's problem of selecting and locating all of his tenants.

J. L. Hudson's center will have their circular department store at one end and the motion picture theater at the other. This tends to move pedestrian traffic through the center past the other stores. The high-priced stores are located on one side of the center while the lower-priced stores are on the other. The stores near the theater stay open at night. Particular care should be taken to place convenience

goods stores as close to parking as possible. As Victor Gruen says: "Nobody wants to walk even 300 feet from a car to get a bottle of aspirin or a tube of tooth paste."

The grouping of the stores in a successful center will more often than not be the result of careful analysis, planning the stores so that their relationship to one another will be of the most benefit to all.

SHOULD SHOPPING CENTERS HAVE BASEMENTS?

If we had to give a simple "yes or no" answer, we would say "yes." On the other hand, we question the wisdom of providing basements in the smaller centers unless the character of the soil or the roll of the ground makes it particularly economical. In the final analysis all of these fragmentary decisions revolve around whether or not it will pay off.

In answer to our questionnaire the authorities on the subject reported only 40% in favor of basements in neighborhood centers; 50% favored them in community centers; and 80% favored them in regional centers.

The following three paragraphs are typical comments:

"We believe basements should be under practically all shops in all types of centers. This is invaluable for storage space which can later be converted to merchandising space if expansion takes place. Also, at the time of the creation of the center and right from the very beginning, certain types of merchandisers can use parts of the basement. I refer particularly to furniture stores which usually cannot afford to pay for ground floor rental for all of their display space."

"We definitely feel that basements are an asset, yet with present construction costs have found that it is not always practical to build in this manner. In our projects we are putting basements in the stores which we feel definitely need the space and might have the potential of using basement area for sales purposes."

"Basements, like second story space, seldom bring an economic rental. They do conserve ground area where space is limited and provide convenient space for expansion of sales area for a growing store."

Those who favored basements believed, quite logically, that they should be used as combined sales and storage space, and felt that the ceiling heights should vary from 9 to 12 feet. (The average of the recommendations was 10 feet.)

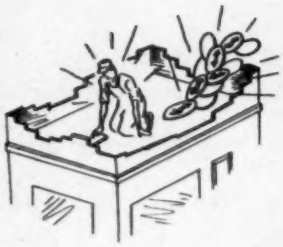
Most of them thought that the basement space should rent for between 1/4 to 1/3 of the square foot rental charged for first floor space.

SECOND FLOOR TENANTS?

There is pretty general agreement among appraisers that the second floor of a two-story commercial building does not pay for itself. This is particularly true of the space above smaller stores. We have felt for quite some time that this position was well taken and were not surprised at the results of the answers to our questionnaire on the subject. They were 100% opposed to providing second floor space in the neighborhood shopping centers. More than 80% of the answers were opposed to second floor space in the community shopping centers. Where regional shopping centers are involved, however, all of the answers favored second floor space. About a fourth of the answers qualified their answers by saying that only "some" of the buildings should be two stories high.

The reasons given for opposing the addition of second floor space are well founded and familiar to us all: construction costs too high (and this is especially important when providing the extra plumbing and electrical facilities for doctors and dentists); second floor space causes too much parking congestion; and second floor tenants generally require too many extra services, thereby increasing management costs.

CONSTRUCTION COSTS TOO HIGH



SECOND FLOOR SPACE CAUSES TOO MUCH PARKING CONGESTION

MANAGEMENT COSTS TOO HIGH

The answer as to whether or not to have second floor tenants seems pretty pat. In the regional centers you do, and in the smaller centers you do not. The more important question, therefore, appears to be what kind of tenants you provide for when you do decide to build a second story.

Our views of this are contrary to those of most experts. The chief point of divergence is in our lack of enthusiasm for doctors and dentists as tenants. For the most

part, doctors prefer to be in a one-story building or in one with elevator service. Location on a second floor is not especially good for them because they usually have some patients that cannot climb stairs. We have not done a great deal of research on the subject, but we believe that most people go to a doctor's office rather infrequently, and that when they do go they are usually not in the humor to wander around a shopping center afterwards. If the doctor is any good at all, the patient has to wait so long to get in that by the time he (or she) leaves the office he is ready to go home. If we are to believe the advertisements of the tooth paste companies and the exhortations of our dentists, most folks visit a dentist less than twice a year. So the amount of money spent in the shopping center by these infrequent visitors would hardly be spectacular. Another consideration that may have some merit is the dental patient's frame of mind. Most people we know look upon a trip to the dentist with considerable trepidation and are, therefore, usually not in the mood for a shopping tour either before or after their visit. Added to these objections are the facts that the patients use up parking space for interminable lengths of time, and that providing the extra plumbing and electrical facilities for doctors and dentists is very expensive.

It seems to us that the second floor space should be dominated by tenants that:

1. Pull people to the center at regular and frequent intervals.

2. Have customers who will not have to park more than 1 hour.

3. Require no display space on the ground floor.

There are several classes of tenants who meet all of these requirements and a great number who meet at least 2 of them.

The Community Builders Handbook* has a long list of various types of tenants for various spots in shopping centers. It is a simple matter to run down this list and check off the tenants who meet the above requirements.

It occurs to us that a dance studio would make an excellent tenant for second floor space. This requires very little in the way of partitions and no extra lighting, plumbing or heating facilities. The students usually sign up for a series of weekly lessons, which assures steady visits to the center, at least for a month or two. The lessons most frequently last from 30 minutes to an hour, thereby allowing rapid turnover of parking space. Another practical thought is that anyone who has money to spend on dancing lessons probably has money to spend on merchandise sold in the shopping center.

A loan company or insurance company branch office should make a good tenant. If some of the loans and policies require weekly payments, so much the better.

Beauty parlors, health studios, men's tailors, dressmakers, photographers, can all use second floor space to a good advantage. So if you do need some tenants for the second floor, don't overstock the place with doctors and dentists; one or two

*Published in 1947 by the Urban Land Institute.

might be all right, but for the most part the space can be rented to more satisfactory tenants.

"BUFFERS"

There are actually two general types of "buffers" around a shopping center - buffer areas and buffer strips. The ideal buffer area serves the dual purpose of protecting the shopping center from unfavorable encroachment and of providing convenient purchasing power. The residential band (the thicker the better) surrounding the center answers both purposes admirably, but can seldom be accomplished. We say "accomplished" because the residential band is either there or it isn't. It's frequently quite a chore just to assemble enough ground to build a well-balanced and well-planned center without worrying about assembling additional ground for a nice fat buffer of residential property. Of course, it's wonderful if you can do it, but you usually can't, unless you move into the hinterlands.

The buffer strip is some type of narrow barrier between the shopping center and its surrounding area. It may be an attractive little parkway, an access road, a peripheral parking area, or a wall. It might be nothing more than a hedge row of tall or bushy trees, or shrubs. Its purpose is to provide an attractive setting for the center - to block off undesirable influences from the center or to screen the center from the view of nearby residences. No matter how architecturally attractive the buildings of a shopping center may be, the owners of surrounding residential property will usually want the buildings blocked off from their view. Providing such a screen around the center is often a long first step toward securing the good will of these owners (who, incidentally, make up the vanguard of the center's purchasing power).

As we pointed out before, another purpose of the buifer strip is to protect the center from adverse influences or to provide an attractive setting. Under these circumstances proper selection of the buffer will make an undesirable piece of ground into a suitable location for a shopping center. Of course, it won't work miracles, but if the surrounding area is not too bad, it can be effectively blocked off from the shopping center site.

In any event, some sort of buffer should be planned. No matter how good the location may be, it can always be improved and set apart by the use of an appropriate buffer.

All of the answers to our questionnaire favored the use of buffer areas and/or strips. Kenneth C. Welch was quite explicit when he wrote:

"Very essential to have buffer strips between any commercial area and any residential area. If you provide peak parking . . . the overflow peripheral parking area, which is used maybe only twenty times a year, acts as a certain kind of natural buffer providing the access road is placed between it and the stores themselves. However, if it's next to a residential area, there should still be another planting buffer all the way up to 15 feet, and in certain cases, either certain types of walls or planting."

Bruno Funaro feels that the residential buffer area is best with a ring of apartment houses lying between the center and the single-family units.

One of the country's foremost authorities on shopping centers answered our question on buffers with simply "AUTO PARKING."

Robert E. Alexander outlined his recommendations in the following manner:

"Neighborhood centers - none but planting; community centers - institutional uses; regional centers - multiple residential or institutional uses. A better buffer in every case can be supplied by park-like planting if it is absolutely controlled and spread of fringe used can be prohibited."

We will close this portion of the discussion by passing along a word of warning from Seward H. Mott. He says that trouble has been experienced with schools (in the buffer area) due to pilfering by students. He also points out that the faculty and students use up a lot of parking space.

SIDEWALK WIDTH

We always feel just a little silly whenever we discuss this question. We keep thinking of Abraham Lincoln's quip about a man's legs being long enough to reach the ground. By the same reasoning, the sidewalks in a shopping center (or anywhere else) should be wide enough to comfortably accommodate the normal flow of traffic.

Once the normal flow of traffic has been estimated, then the selection of the proper width sidewalk is relatively simple. The answers to our questionnaires were in pretty close agreement. The averages of the recommended widths were:

Neighborhood centers	12 feet wide
Community centers	15 feet wide
Regional centers	20 feet wide

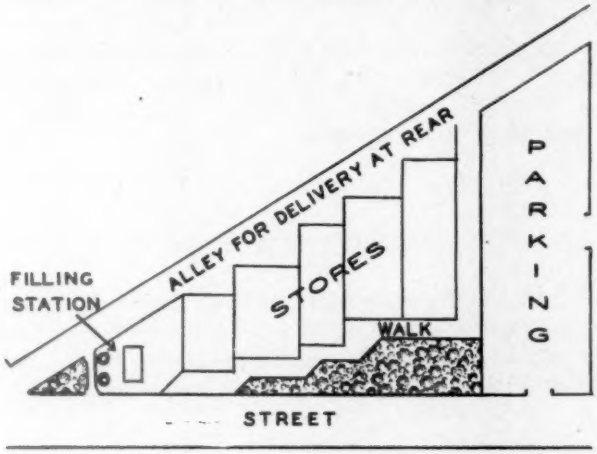
There is an increasing trend toward the return to the covered sidewalk. There may be some architects who are under the delusion that they are advocating something new when they talk about covered sidewalks. Well, they're not. Covered sidewalks have been around for a long time and they are very nice to have.

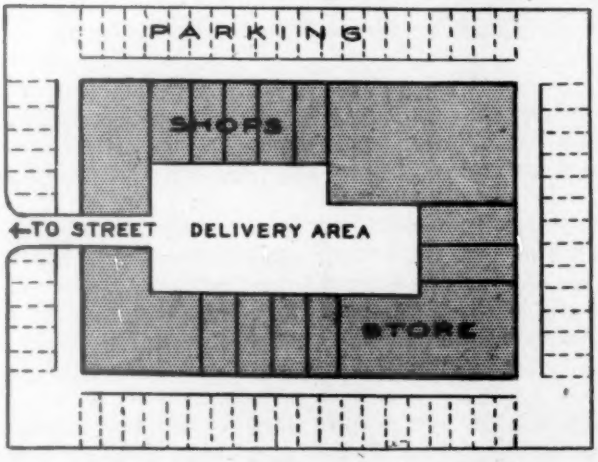
The county seat of Simpson County (Kentucky) is the pleasant little town of Franklin. One of their most important commercial blocks has had covered sidewalks for fifty years or more. Another one does not. Several rainy afternoons last summer we sat on the court house steps and watched the pedestrian traffic moving slowly and easily along the covered sidewalks, while the rain beat against the deserted walks in front of the unsheltered stores.

The sidewalks at the Clearview shopping center just outside Princeton, New Jersey, will not only be covered; they will be completely enclosed by large plate glass windows

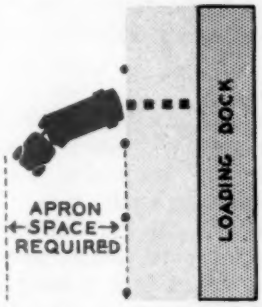
PACKAGE HANDLING

This is a very important factor in all types of merchandising. It is actually divided into two main problems: 1. handling merchandise upon arrival; and 2. handling it upon departure. We will consider both problems in a very general way. We are chiefly concerned with package handling as it applies to shopping centers. Therefore, we are particularly interested in seeing that the delivery trucks do not interfere in any way with the flow of automobile or pedestrian traffic in and around the center. There is nearly always some manner in which this can be accomplished. It will in most cases differ from one center to another because each center has its own set of peculiarities. Here are a couple of examples to show what we mean.

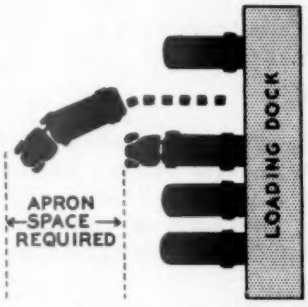




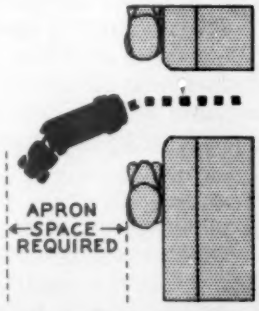
(a) Unobstructed dock



(b) Post-supported canopy



(c) Alongside other vehicles



(d) Driveways and stalls

In larger centers or where the topography favors such a step, the trucks bringing in merchandise can come into the center through tunnels to loading docks at the basement level. John Graham, in designing the big Northgate center for Allied Stores (50 acres north of Seattle), uses an underground truck road. The trucks come in at one end of the center, drive straight through, making their deliveries or pick-ups, and continue on out through the other side. At no time do any of the customers even see a truck, much less worry about having to dodge them. (A similar arrangement was used by Victor Gruen in designing Eastland Plaza.)

In providing loading docks the designer should always consider the type of trucks to be served. The Fruehauf Trailer Company has published a booklet, "Modern Docks for Modern Transports," in which they cover the important points in dock design. The sketches on the left are taken from this booklet.

They go on to say that "the 'apron' space required is measured out from the outermost part of any vehicle or other possible obstruction in the area of maneuver." The following table is also provided, showing the "apron" space required by a tractor trailer to move into or out of a position without "jockeying."

Over-all length of tractor trailer	Width of position	Apron space required
35'	10'	46'
	12'	43'
	14'	39'
40'	10'	48'
	12'	44'
	14'	42'
45'	10'	57'
	12'	49'
	14'	48'

The height of loading docks should be somewhere between 48 and 54 inches for heavy equipment, while heights of from 44 to 50 inches are in more general use. It should be kept in mind that the bed height of the trailer will rise as much as 6 inches while it is being unloaded and weight is taken off the tires and springs. If there is ever any doubt as to the proper

height, it is better to err in making the dock too low. If it is too high, it is impossible to open the doors of the trailer. Fruehauf also recommends that a minimum of 14 feet (height) clearance be provided at docks and in yards, stalls, doors and tunnels.

Getting the packages out of the shopping center is the final problem in the distribution process. Here there are only two general solutions - either the customer carries them or the merchant has them delivered. It is naturally more desirable if the customer handles the delivery, and there are many ingenious ways of making this comparatively painless. Most small articles (and some not so small) are carried away by their purchasers. We specifically asked in our questionnaire: "In the shopping centers with which you are familiar, how are the customers' purchases delivered to the car?" Exactly one-half of the answers reported that the customer carried them out herself. Thirty per cent reported that a "carry-out" boy performed this service and twenty per cent said the customer gathered her purchases together at a "central pickup point."

Just how much service to render the customer after she has made her purchase is frequently another tricky economic problem. A delivery service frequently falls short of giving the customer the service she really wants. It usually is made a day or two or three after she makes the purchase. In addition to the delay, she may have to inconvenience herself in order to stay home the day the delivery is scheduled. Moreover, it increases the amount of merchandise returned by providing the customer (who has had plenty of time to change her mind) with a very convenient means of sending it back to the store. It also inevitably adds to the cost of distribution, and most customers are aware of it.

Therefore, as we mentioned before, it is much more satisfactory from the viewpoint of both buyer and seller if the article can be carried away at the time it is purchased.

Most people have been pretty well indoctrinated by the food chains and expect to take their groceries home. In addition to this, delivery service by drug stores has become almost as archaic as the horse and buggy (except in cases of prescription delivery). Since the super market and the drug store often form the backbone of the neighborhood centers, the neighborhood centers usually have no particular delivery problem.

In the larger centers with department stores, shoe stores, gift shops, liquor stores, book stores, infants' wear shops and numerous other outlets, the delivery problem can become quite complex. Some centers have a single delivery system used by all of the merchants and this undoubtedly has many advantages over the system whereby each merchant looks after his own. No matter how efficiently the big centers are designed and operated, they will all probably have to deliver a limited number of purchases, for the simple reason that some articles are just too big for the customer to manage.

Many community and regional centers will eventually adopt some sort of system for conveying each customer's purchases to a pickup point. (There may be several such points strategically located at different spots within the parking area.) This may be done by carry-out boys operating a fleet of push carts or it may be done

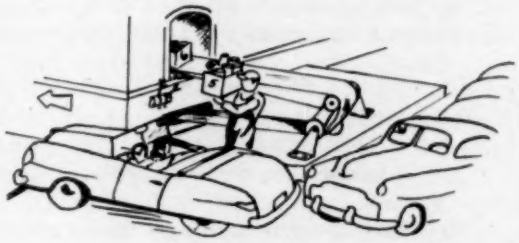
by power conveyors. In many cases it will be accomplished by a combination of both.

Such a system can become quite extensive. Bullock's big department store in Pasadena uses a series of chutes and conveyors to route outgoing packages to pick-up stations adjoining the parking lots, and Foley's in Houston uses an elaborate chain of equipment to move packages to the customers' cars and to speed the handling of merchandise from their receiving docks to the shelves within the departments.

CUSTOMER CARRIES THEM

CARRY-OUT SERVICE

CENTRAL PICKUP POINT



Howard T. Fisher advocates the use of a light conveyor system moving in a trench past the various stores in a shopping center to a central pickup point. Whatever package handling decision is made by the designers and operators of shopping centers must be based upon the individual requirements of each center. The main purpose is to free the shopper from the mental and physical burden of lugging her purchases from one store to another. If this is done, her inclination will be to stay longer and return oftener.

NIGHT OPENINGS

Night openings of shopping centers are apparently pretty popular. Almost 90% of the answers to our questionnaire advocated them. Most of the suggestions were for openings until 9:00 or 9:30 on two or three nights a week.

This question depends almost entirely on local custom and on the type of people making up the clientele of the shopping center. If the customers of a center are mostly people who work during the day, then night openings are apt to be most remunerative. On the other extreme, if the customers have a lot of time on their hands during the day and like to run around at night, it will probably be better to shut up shop about 6:00 P.M. However, there's nothing so earth-shaking about making such a decision. The thing to do is to give night openings a really good try (widely publicized) over a three- to six-month period, or maybe longer. If it works out, fine! If it doesn't, well you can always stop.

For those few centers that have not tried night openings, we would like to pass along a word on the subject from Seward H. Mott:

". . . varies widely in different cities. Town and Country Center in Sacramento, California, open from 9:00 A.M. to 5:00 P.M. and from 7:00 P.M. to 9:00 P.M. every night. Sixty per cent of their business has been done in evening hours."

Since square dancing has taken such a grip on some parts of the country, it might not be a bad idea to set aside one night a week for such an activity at the shopping center. Naturally, it should be planned in a way that would not interfere with the more serious business of the enterprise.

COOPERATION BETWEEN MERCHANTS

Everyone seems to agree that cooperation is a fine thing. Most of the authorities on the subject seemed to feel that the following activities should be coordinated by a merchants' committee or association:

Trash collection	Night watchman
Window display	Snow removal
Advertising	Parking lot operation and upkeep
Seasonal decorating*	Night lighting

The details as to which of these activities to carry out and how they are to be paid for can be worked out between the operators and the merchants. There's little point in discussing them here except to say that we are strongly in favor of cooperation.

*Along toward the end of October, why not invite the school kids to come in and paint their Halloween pictures on the windows of the entire center. We have seen a number of districts painted up by the pupils of the grade schools and it presents a very colorful effect. In addition, it gives the kids something constructive to do for two or three afternoons and doesn't add to the window-washing expense because the windows would probably be "soaped" if they were left unpainted.

LEASES

While all leases are the result of individual agreements, we are very strongly in favor of percentage leases with a high minimum for the period ahead. All of the answers to our questionnaires indicated a similar belief. The operators who replied to us stated that nearly all types of stores were being leased on a percentage basis. The exceptions were banks and post offices and tenants that were apt to maintain incomplete bookkeeping records. (Barber shops, beauty parlors, shoe repair shops, doctors, dentists, etc.)

Those operators who are interested in protecting their income from inflation may find Roy Wenzlick's bulletin* on inflation clauses helpful.

Leases should also cover such agreements as extra charges for janitor, heat and utility services. They can be used to specify types of store, signs and window displays. In fact, the entire advertising program and policy of the center can sometimes be outlined in the lease. It is a good idea for the lease to also cover the following points of possible conflict:

1. Control over the employee parking; 2. maintenance and cleaning of public restrooms and parking area; 3. trash disposal; 4. snow removal; 5. night lighting; 6. hours of business; 7. maintenance of planting areas and other landscaping.

ADVERTISING

There seems to be very little disagreement as to the necessity of advertising. Virtually all successful merchandising units derive great benefits from advertising, either by running their own ads or by depending on the ads paid for by a neighboring (and usually larger) store.

What we are chiefly concerned with here is the advertising policies adopted by shopping centers. In our opinion the policy should be arrived at after careful study by the operators and a merchants' committee, and since it must be adhered to, it should contain no clauses that will be too difficult to enforce.

Just what details finally work their way into the advertising program is relatively unimportant so long as a few basic points are included. We feel that the following are important:

1. All merchants should share the expense (on a prorated basis) of "institutional" advertising.

2. The store signs of the individual merchants must be kept below a certain maximum size.

3. Window stickers and other displays within the center should receive approval of the merchants' committee (or advertising committee).

*"As I See Inflation Clauses in Real Estate Instruments," Bulletin Number 39, August 29, 1950.

4. If possible, individual advertising should be done on a combined basis (many of the chains do not like this).

5. All ads should carry the name of the shopping center as the merchant's address rather than just a street number.

6. Any unusual ads or promotional plans should have the approval of the merchants' committee.

Furthermore, we believe that all leases should have a clause obligating each tenant to contribute a very small percentage of his gross to the center's advertising budget. We know that in some cases it would be virtually impossible to get such a lease signed, but we still think it is desirable from the operator's standpoint. One of the owners of a center in Wisconsin writes that his center uses this stipulation in its leases because "all tenants as well as the owner or operator of the retail center must jointly take all possible steps to develop a satisfactory volume so that the district becomes an important retail shopping center rather than a typical neighborhood service unit."

If we owned a center we would like to see all advertising carried under the center's name and paid for out of the advertising budget. The advertising committee would be responsible for drawing up and carrying out a complete, year-round, aggressive advertising program using all worth while advertising media. We would also encourage the different merchants to offer certain inducements to draw more people into the center at various times of the day.

EXTRA SERVICES

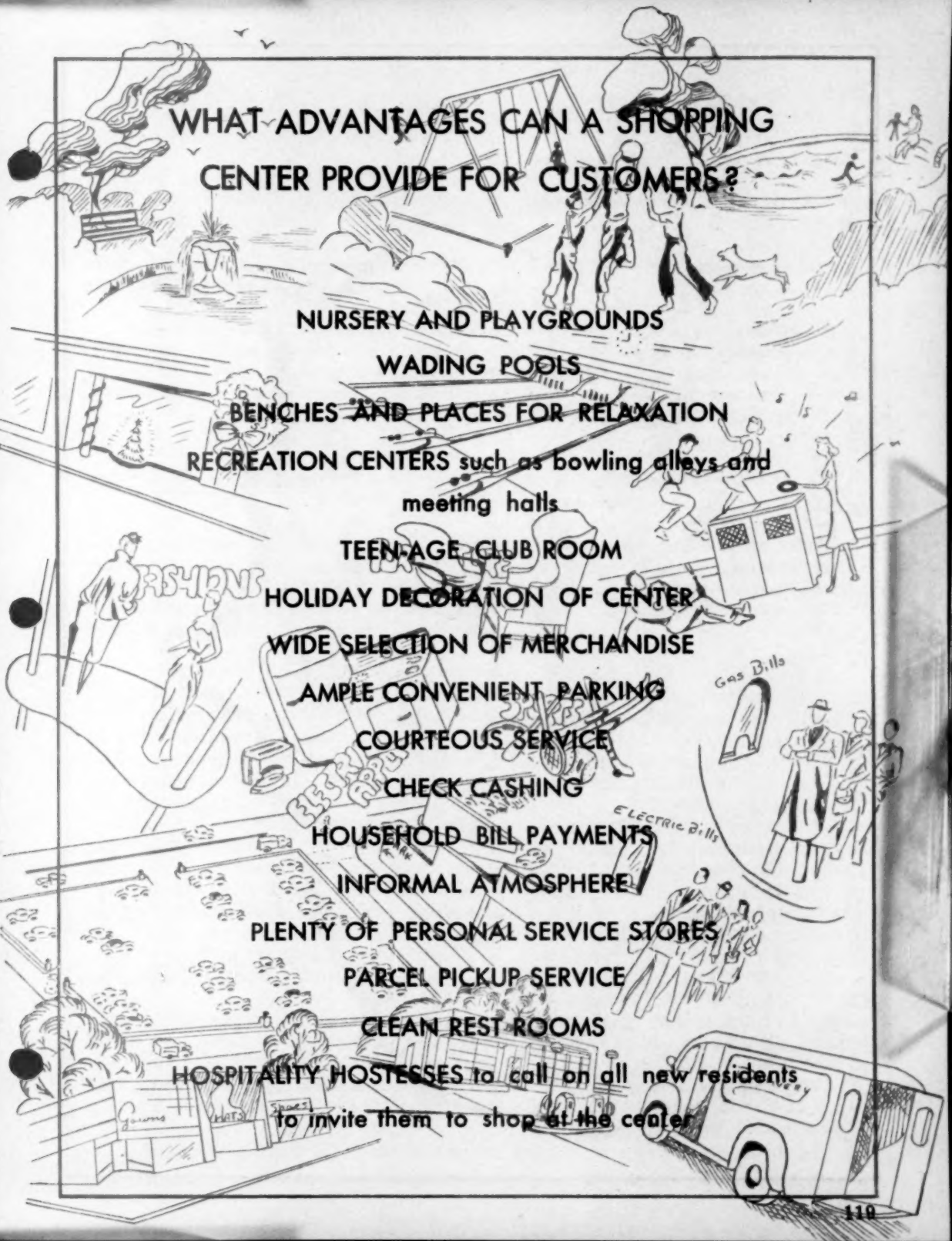
Extra services are those which reap little direct return, but which bring the shopper into the center and/or make her stay a pleasant one.

For example, there is very little direct return from providing facilities for the payment of household utility bills or cashing pay checks, but it brings people into the center at regular intervals. There is also little direct return from running a day nursery or playground, but it provides the mothers with a place to park the kids while she does her shopping. As a rule, any service or activity that will make the shopper come in more often and stay longer will pay handsome dividends. Just how many "extras" to provide is a question that must be decided on the basis of the type of people being served, their needs, local custom, and sometimes the goodness of the operator's heart.

The list of these extra services is long and varied and on the opposite page we show a group of those most widely offered. Not all of them will work equally well in all locations, but we would not hesitate to recommend that most of them, or variations of them, be tried.

There is one, however, that we are just a little uncertain about. The "teenage" club room would cause us to be a bit uneasy because we have seen some teenagers that we would not want in our shopping center regardless of how much they

(cont. on page 120)



WHAT ADVANTAGES CAN A SHOPPING CENTER PROVIDE FOR CUSTOMERS?

NURSERY AND PLAYGROUNDS

WADING POOLS

BENCHES AND PLACES FOR RELAXATION

RECREATION CENTERS such as bowling alleys and meeting halls

TEEN-AGE CLUB ROOM

HOLIDAY DECORATION OF CENTER

WIDE SELECTION OF MERCHANDISE

AMPLE CONVENIENT PARKING

COURTEOUS SERVICE

CHECK CASHING

HOUSEHOLD BILL PAYMENTS

INFORMAL ATMOSPHERE

PLENTY OF PERSONAL SERVICE STORES

PARCEL PICKUP SERVICE

CLEAN REST ROOMS

HOSPITALITY HOSTESSES to call on all new residents to invite them to shop at the center

ESTIMATED MINIMUM ANNUAL SQ. FOOT RENTALS TO SUPPORT NEW SHOPPING CENTERS

(DECEMBER 1950)

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ROY WENZLICK & CO.

(cont. from page 118)

bought. Of course, we might make the same observation about some adults we have encountered, but as a general rule adults are somewhat more restrained, or inhibited, than are teen-agers.

If the teen-agers in the neighborhood are fairly well behaved (as most of them are) and can be relied upon not to make themselves objectionable, a teen-age club room should be a fine medium for building good will and forming buying habits. But we would certainly study the possible repercussions very carefully before inviting them in. Once such an activity is started it's awfully hard to discontinue it without causing a good deal of resentment.

In most income brackets the teen-agers form a frequently unexploited group of buyers. The merchant who can keep up with their idiosyncrasies (particularly in clothes and gifts) and put up with their foolishness will be well repaid. So, in addition to the teen-age club room as an extra service, we would very strongly recommend that the shopping center operator thoroughly study the potentialities of his teen-age market.

SHOPPING CENTER ECONOMICS

For a number of years we have felt that well-located and well-planned shopping centers were excellent investments. We still feel that way. However, "well-located" and "well-planned" are two powerful qualifications, and to succeed over the long pull, a shopping center must meet both of them. This is particularly true in view of today's high construction costs.

In considering the location for a proposed shopping center it is not enough to study the present influences affecting the site. Great pains must also be taken to estimate the results of these influences as far into the future as possible. We have already stressed the importance of purchasing power and accessibility, but the probable changes that are apt to influence this purchasing power and accessibility are equally important. Zoning changes, shifts in transportation lines and main traffic arteries are to be anticipated whenever possible. The neighborhood should be studied in order to determine whether it is still improving or whether it has reached its peak and is on the way down. In other words, it is woeful lack of foresight to plan a center based on present conditions alone. All of us know that change is the dominant factor in any form of business, and attempts to "capitalize the present as a perpetuity" are frequently followed by disappointment and failure. On the other hand, placing too much reliance on present conditions might result in underimprovement of the site through failure to provide facilities to handle increased purchasing power of the trading area.

Any discussion of shopping center economics naturally involves the rents that might reasonably be expected. With this in mind, we asked the nation's leading experts the following question: "Although the land value will cause the answer to this question to vary, about what rent per square foot do you think necessary to support a new shopping center in your area?"

The wide variations in the answers to this question are caused chiefly by the dif-

ferent types of shopping centers the experts had in mind when answering. Additional variance was expected because of differences in ground costs, differences in ground development cost and differences in construction costs. The answers are shown on the map on page 120. (It should be remembered that these figures are minimum, annual square foot rents. They are not construction costs.) Naturally, the $3.00 per square foot rentals are felt necessary to support the glamorous, big regional centers while the rents of $1.00 to $1.25 per square foot are necessary to support the smaller neighborhood centers. One of the Texas centers, where rents average $1.00 per square foot, was built on ground valued at $150 to $200 per front foot. Improvement costs were $7.50 per square foot. Another southwestern center gets rents of $1.70 for a building that cost $6.00 per square foot on land valued at $500 per front foot.

While the basic economics of shopping center development are nothing more than comparing expected cost with expected income, the details are usually quite involved. All of these fragmentary decisions should be made only after answering two questions: 1. Will it provide better service or more convenient shopping? 2. Will it return enough to justify the expense?

So far we have not touched on the advantages of the shopping center to the merchants. Nearly all of these advantages are obvious - modern stores, pleasant surroundings, wide selection of merchandise. The other advantage, on the opposite side of the ledger, is lower merchandising costs. Most experts agree that there are considerable savings available in merchandising through modern shopping centers. However, it is virtually impossible to give even an approximate percentage of savings. This is because while the merchandising efficiency of shopping centers will vary, the efficiency of the downtown stores will vary even more. For this reason generalization is very risky. However, Kenneth C. Welch, who has specialized in the marketing and merchandising side of shopping center development, feels that expense ratios can be reduced as much as 15% in operating a branch department store in a modern center. (Here, indeed, is the spring from which flows the magical mixture of lower prices for the customer, higher profits for the merchant, and higher rents to the shopping center.) He goes on to say that another advantage of properly designed regional centers is "the elimination of any extra services that cost out-of-pocket money to the merchants. It is not necessary for them to operate a restaurant at a loss because other people can come in whose business it is to merchandise meals properly even when the shopping center itself is closed."

In closing we reiterate that well-planned and well-located shopping centers should be prime investments for many years to come. But before buying or building one, study it very closely. In the words of Davy Crockett (who was not an expert on shopping centers), "Be sure you're right - then go ahead."

Tom McReynolds

TOM McREYNOLDS

Last page of shopping center bulletin.

ADDITIONAL COMMENTS

"In the construction of a store center of any type we would want to retain all the ownership. It is becoming increasingly difficult to finance such centers and we think this should be of great concern to anyone who is contemplating the construction of a store center. We believe this trend of restricted finance will be intensified further. Most definitely it would be our recommendation that all financing be completely and definitely arranged for prior to the beginning of construction."

Wichita, Kansas

"Thinking throughout the country has changed considerably over the period of the last few years relative to the building of different types of shopping centers. It was not too long ago when merchants of practically every type were seeking exclusive clauses in their leases. The present trend is towards competition, as is the thinking of many large department store operators who have already announced shopping center projects of their own."

Robert A. Polacheck

"Don't try to run everything yourself. It is vital to form an operating company to run the center. This company should have complete responsibility and should work closely with the merchants committee."

St. Louis, Missouri

"I think it is very difficult to set up a formula for universal application as to shopping center economics. Each situation should be very carefully appraised and a competent economic survey should be made to determine the purchasing power and type of competition existing. Rents can be estimated, and if the estimated costs are excessive in relation to the contemplated income after due allowance for operating, overhead and promotion costs, the arithmetic will dictate whether or not the investment is justified. If minimum guaranteed rents plus fixed non-percentage rents do not appear to be sufficient, it would not be prudent to base the income on bonus rents. Obviously, it is the percentage lease or bonus rents which will produce the profits or leverage and there should be this margin of safety that I feel should exist, as there is no assurance that the high volume of the last few years will always be maintained."

David D. Bohannon

"There is now grave danger of many small centers being built or planned where there is insufficient need. These will not survive in less favorable times. There is also a tendency in a few spots to plan centers which are too large. Often they will produce a congested area similar to the present downtown or central business problems."

Hugh Potter

"Don't start construction until you have all your key stores leased."

Joseph E. Merrion

"Recreational centers such as bowling alleys and meeting halls, also restaurants, prove to be excellent features. In many centers, nurseries and wading pools are a great asset."

New York, New York

"City zoning is very important in selection of suitable site for shopping center. Study traffic pattern of neighborhood and through-traffic. Neighborhood characteristics should determine type and size of stores as well as of the shopping center. Better to rent a store at lower rental for type of business that will be an asset to the neighborhood than to get a premium for the space from a tenant who may give your center some bad publicity."

V. F. Buchek